Mindfulness as Mediator between PERMA and Creativity: Testing a SEM Model in Primary School Children

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Abstract

This study aimed to develop a PERMA-based model to enhance Mindfulness, which, in turn, enhances Creativity among Primary School Children. The data was collected using quantitative methods, specifically through the administration of questionnaires. The researcher developed three tools: the Children's Creativity Tool, the Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children), and the Children's PERMA Tool. The sample consisted of 1809 participants, aged 11 to 13 years, including both boys and girls from various schools in Karnataka, Maharashtra, and Telangana states. Purposive sampling was employed to select the sample. Descriptive statistics were computed to characterize the data, and reliability of the constructs was assessed using Cronbach's alpha. Pearson's product-moment correlation coefficient was employed for correlation analysis. Additionally, Structural Equation Modelling was conducted using AMOS software to examine the theoretical model of PERMA and its impact on enhancing Creativity. The results revealed that Mindfulness mediated the relationship between, Positive Emotions; Engagement; Relationships; and Achievement and Creativity among Primary School Children, but Mindfulness failed to mediate the relationship between Meaning and Creativity. The study has implications for policymaking, as modules based on this model can be developed to enhance Creativity among Primary School Children and the causal relationship can be further explored. The government of India can utilize the developed module to make amendments in education policy. Implementing curriculum based on this model can foster improved learning outcomes by focusing on holistic development among Indian youth.

Key words: PERMA, creativity, mindfulness, primary school children

TABLE OF CONTENTS

Abstract……..... ii

List of Tables…….. iv

List of Figures……. v

Chapter 1: Introduction……. 01

Chapter 2: Literature Review ……... 29

Chapter 3: Method…….. 44

Chapter 4: Major Findings and Conclusion…… 64

References……. 79

Appendices

Appendix A-Informed Consent Form…… 100

Appendix B- Demographic Profile…….…… 101

Appendix C - The Children's Creativity tool…….……. 102

Appendix D- The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children) ……..… 104

Appendix E- Children's PERMA tool……..... 107

LIST OF TABLES

Table No	Title	Page No
3.1	Tools used in the Study	60

LIST OF FIGURES

Figure No	Title	Page No
1.1	Theoretical Conceptual SEM model	26
4.1	Estimated Structural Equation Model	72

CHAPTER 1

INTRODUCTION

"The creative adult is the child who survived."

- Ursula Leguin

In this chapter, the researcher explores the ideas of Creativity, Mindfulness, and PERMA, and their relevance to the examination of these factors, particularly among Primary School Children. Furthermore, the researcher introduces the focus of the study, which revolves around Primary School Children as the study population. Subsequently, the researcher delves into comprehending the connection between the variables under investigation. Lastly, at the end, the researcher addresses the need and assumptions of the study.

The Significance of Creativity in Personal, Societal, and Educational Realms

Creativity, as a variable of great significance, warrants thorough research due to its numerous benefits. It not only amplifies individual wellbeing but also enhances physical and mental health, while providing Meaning to one's existence. Csikszentmihalyi (2004) emphasized in a renowned TED presentation that engagement in Creativity makes us feel more alive and fulfilled compared to other aspects of life. When we tap into our creative potential, we perceive the world and everything within it as vibrant and animated. Creativity becomes an integral part of our existence, allowing us to derive joy and appreciate every phase of life (Shah, 2013). Conner et al. (2016) found that engaging in everyday creative activities positively correlated with greater well-being in young adults. Such activities led to increased, energy and a sense of blossoming in the days following creative endeavours. Richards (2018), in "Everyday Creativity and the Healthy Mind: Dynamic New Paths for Self and Society," asserts that Creativity is not only vital for personal growth but also for our

survival as a species. By fostering Creativity, individuals not only produce beneficial outcomes for themselves and society but also gain resilience, perspective, and a sense of aliveness, joy, and purpose in the present moment. Tan et al.'s (2021) study findings further support the notion that Creativity enhances subjective well-being, holding true for both young individuals and those in the workforce. Yang and Zhao (2021) discovered that creative thinking among students translates into better academic performance, both in the classroom and on educational assessments, while also equipping them with skills crucial for success in a fiercely competitive future job market. In a broader context, Creativity helps students adapt to the demands of a society that increasingly values "21st-century" competencies beyond basic literacy and numeracy. Building on this idea, Sudhakar (2018) highlights that the essence of Creativity lies in “Growth”. Highly creative individuals view problems as opportunities for personal development rather than obstacles to overcome. They navigate challenges by embracing them as chances to evolve and flourish. Overall, the exploration of Creativity as a variable is essential as it encompasses numerous advantages that extend to personal, societal, and educational realms.

Creativity extends beyond individual development and Positive Emotions; it becomes a pathway for individuals to discover deeper significance and fulfilment. As Kaufman (2018) highlights, creative endeavours have the potential to fulfil various dimensions of the search for Meaning, including coherence, significance, purpose, and symbolic immortality. By engaging in creative pursuits, individuals not only find personal satisfaction but also cultivate strength and compassion, qualities closely associated with finding Meaning in life. Thus, exploring the relationship between Creativity and Meaning adds another layer of understanding to the broader implications of Creativity in personal, societal, and educational contexts.

Creativity and Meaning in Life

Creativity goes beyond personal growth and positive feelings; it also plays a vital role in helping individuals discover Meaning and purpose in life. Kaufman (2018) suggests that creative endeavours can fulfil various aspects of the search for Meaning, such as coherence, significance, purpose, and symbolic immortality. Engaging in Creativity not only brings personal satisfaction but also promotes strength and compassion, both of which are closely linked to finding Meaning in life. Researchers have specifically examined the relationship between Creativity and life Meaning among Chinese, English as a Foreign Language (EFL) college students, investigating the cognitive and affective components underlying this connection. The study conducted by Han et al. (2023) revealed positive associations between Creativity, general self-efficacy, Positive Emotions, and life Meaning. These findings highlight the significance of Creativity in facilitating a sense of purpose and fulfilment, ultimately contributing to a Meaningful life.

In addition to its impact on personal growth and Meaning in life, Creativity also has significant implications for physical and mental health. Studies have demonstrated the positive associations between Creativity and overall well-being, highlighting its potential to contribute to a longer lifespan and enhance quality of life (Rodriguez, 2012; White, 2021). The cumulative evidence provided below emphasizes that Creativity is not only linked to personal fulfilment and Meaning, but also holds promising benefits for physical and mental health.

The Impact of Creativity on Physical and Mental Health

The influence of Creativity extends beyond the realms of the mind and can profoundly impact our physical well-being, making it a crucial factor in prolonging life.

Studies suggest that Creativity not only has the potential to enhance overall health and quality of life (White, 2021), but also, contributes to a longer lifespan (Rodriguez, 2012). Engaging in creative activities has been found to alleviate anxiety, despair, and stress, and it can even facilitate the healing process following a tragedy (Stahl, 2018). Embracing inner Creativity not only brings about a sense of physical well-being, but it also boosts self-esteem and fosters greater confidence. When individuals choose to express their unique and often chaotic creative impulses, they develop a profound understanding that they are inherently whole and good just as they are, enabling them to approach life with a sense of empowerment and authenticity (O'Reilly, 2022). The cumulative evidence suggests that Creativity not only promotes well-being and imparts Meaning to one's life, but also holds promising benefits for physical and mental health.

While embracing one's inner Creativity has been shown to have positive effects on well-being, the consequences of suppressed Creativity can be detrimental. When individuals are unable to express their creative impulses and ideas, it can lead to a sense of distress and unhappiness. Researcher of the current study, in the further discussion suggests that the inhibition of Creativity often contributes to feelings of non- accomplishment and dissatisfaction, particularly among young individuals.

The Consequences of Suppressed Creativity

Enhancing Creativity brings forth numerous benefits, but when Creativity is stifled or neglected, it can lead to distress and unhappiness. The inhibition of Creativity is often responsible for the unhappiness experienced by many young individuals before reaching their thirties, as they feel a sense of non-accomplishment in life (Elite, 2013). Kathelle (2020) identifies three potential outcomes of suppressing Creativity. Firstly, it results in heightened

anxiety, manifesting as anguish, fury, self-condemnation, sorrow, and shame. Secondly, individuals who fail to regularly exercise their creative abilities may struggle to generate multiple solutions to problems, often resorting to delegating responsibilities to others. Lastly, a loss of individuality occurs when individuals lack Creativity, causing them to blend into the crowd and forfeit their uniqueness. O'Reilly (2022) emphasizes that unused Creativity, like unexpressed emotions, does not simply disappear; it festers and becomes potentially dangerous. The above observations underscore the importance of studying and nurturing Creativity, as fostering it yields significant benefits while curbing it can have detrimental effects on individuals' well-being. Thus, understanding and enhancing Creativity becomes a crucial variable in an individual's life journey.

Overall, Creativity is a variable of immense importance that affects various aspects of human life. It enhances well-being, provides Meaning and purpose, improves physical and mental health, and fosters individuality. However, suppressing Creativity can lead to distress and hinder personal growth. Therefore, understanding, and nurturing Creativity becomes vital for individuals, education systems, and society.

To fully comprehend the significance of Creativity, it is important to consider its historical context and the theories that have shaped our understanding of this phenomenon. By examining the historical context of Creativity, we gain a deeper appreciation for its rich theoretical foundations and the enduring significance it holds in various fields of study.

Historical Context of Creativity

The early study of Creativity has benefited significantly from the contributions of psychoanalysis, Gestalt psychology, and psychometrics. According to Freud (1908), non-rational primary process thinking plays a crucial role in artistic expression by providing a

socially acceptable means to convey undesirable unconscious aggressive and sexual cravings for dominance or love. Wertheimer (1945), a notable Gestalt psychologist, focused on the processes of transformation, figure-ground reversal, and closure, which are closely associated with insight learning. In the psychometric tradition, Guilford (1967) developed the Structure of the Intellect Model, encompassing both convergent and divergent thinking abilities, to conceptualize Creativity as a collection of diverse skills. Recent research by Simonton (2000) has revealed valuable information on cognitive processes, psychological traits, psychophysiological mechanisms, lifetime development, and social contexts related to Creativity. These interdisciplinary contributions have enriched our understanding of Creativity and its multifaceted nature.

Building on these foundational theories, researchers have employed various approaches to study Creativity, including cognitive, psychometric, developmental, personality, social, cultural, clinical, and biological perspectives. Each approach offers unique insights into different aspects of Creativity, allowing for a comprehensive understanding of this complex phenomenon. By integrating these diverse approaches, we can further unravel the intricacies of Creativity and its impact on human experience and development.

Various Approaches to the Study of Creativity

Numerous researchers have employed various approaches to examine Creativity. The cognitive approach focuses on understanding the mental processes involved in generating creative outputs, such as concept fusion, concept expansion, imagery, metaphor, and divergent thinking (Runco & Chand, 1995). Social and cultural approaches investigate the cultural variations in Creativity and how factors like family relationships, group dynamics,

and cultural influences impact creative expression. Psychometric approaches involve the development of tests and strategies to assess and enhance Creativity. Clinical approaches have found associations between Creativity and emotional instability, as well as a higher risk for affective disorders and schizophrenic tendencies (Jamison, 1993; Andreasen, 2008). Developmental and personality approaches explore Creativity in childhood and throughout the lifespan. Biological techniques delve into the neurological and physiological systems underlying Creativity, as well as the role of genetics in creative abilities. Comparative and evolutionary perspectives examine the unique creative talents of humans, their contrast with other animals, and the development of ideas over time. These diverse approaches contribute to a comprehensive understanding of Creativity and its multifaceted nature.

By integrating these diverse approaches, researchers gain a deeper understanding of the nature and manifestations of Creativity in different domains of human experience. Defining Creativity has also been a topic of exploration, with scholars offering various definitions that capture its essence. From highlighting originality and appropriateness to emphasizing novelty, usefulness, and surprise, different criteria contribute to our understanding of Creativity. For this study, the researchers have adopted a definition, which is explained below, that emphasizes thinking in novel and productive ways to conceptualize and do things, encompassing both artistic and non-artistic Achievements. With this comprehensive understanding of Creativity, the researchers aim to explore its impact on the Creativity especially among Primary School Children.

Defining Creativity and its Characteristics

Creativity has been defined by different scholars according to their respective eras. Drevdahl (1956, as cited in Kumar & Rani, 2014) defines “Creativity as the potential of an

individual to produce compositions, goods, or ideas that are fundamentally fresh, innovative, and previously unknown to the creator". Sternberg and Lubart (1999, as cited in Villalba, 2008) describe "Creativity as the ability to generate work that is both unique (i.e., creative, and surprising) and appropriate". The term "Creativity" refers to the generation of practical innovations, although defining Creativity proves challenging due to not all creative outputs being useful or aesthetically pleasing. A recently adapted definition, drawing from the three criteria employed by the United States Patent and Trademark Office to assess patentability (Simonton, 2012), offers the most comprehensive understanding. The first criterion is originality, requiring the idea to be unique and improbable. Albert Einstein's special theory of relativity satisfies this condition as no other scientist had conceived it. The second criterion is usefulness, emphasizing the practical value and effectiveness of the concept. For instance, an original recipe resulting in an inedible dish cannot be considered creative. In Einstein's case, his theory explained previously inexplicable empirical results. The third and final criterion is surprise, whereby the concept should be unexpected or non-obvious. Some definitions of Creativity extend to encompass novelty generation in the biological world or the universe. However, the widely encountered 'originality and appropriateness' definition has become the standard (Sternberg, 1988; Feldman, Csikszentmihalyi, & Gardner, 1994; Peterson & Seligman, 2004). For the current study, the researchers have adopted Peterson and Seligman's (2004) definition, which defines Creativity as "thinking of novel and productive ways to conceptualize and do things; includes but is not limited to artistic Achievement" (p. 29). "Originality and adaptability are crucial components of Creativity" (Peterson & Seligman, 2004, p. 110).

As Creativity encompasses various characteristics, one notable aspect is its propensity to undergo changes as individuals progress through different stages of life. This characteristic is explored in the further section.

Creativity and Age

Creativity exhibits various characteristics, including the fact that it changes with age. Land (1968, as cited in Land & Jarman, 1992) conducted a Creativity test on children aged 3 to 5 and discovered that non-creative behaviour is learned. Interestingly, this was the same test used to select NASA scientists and innovative engineers. The children were retested at the ages of 10 and 15, and the results showed a significant decline in Creativity. While the Creativity level was 98% in 5-year-olds, it dropped to 30% at the age of 10 and further plummeted to just 12% at the age of 15. Similarly, when the same test was administered to 280,000 adults, the level of Creativity was found to be a mere 2%. A study conducted by Gopnik et al. (2017) also supports this trend, revealing a decline in Creativity as individuals grow older. The findings suggest that as children acquire more knowledge, their cognitive flexibility and creative abilities may diminish. In his address to a gathering of children at the Children Science Congress, former president Dr. A.P.J. Abdul Kalam emphasized the innate capacity of children to be creative, imaginative, and innovative. He highlighted the unfortunate trend of these inherent abilities diminishing as individuals grow older. Kalam stressed the importance of recognizing and nurturing these inherent capabilities to cultivate a new generation of innovative thinkers who are equipped to tackle the future challenges our world faces (Press Trust of India Ltd., 2014). Thus, it can be understood from the above discussion that Creativity tends to decrease with age.

As children acquire more knowledge and their cognitive processes become more rigid, their creative abilities may diminish. These findings underscore the importance of exploring Creativity in different age groups and understanding the factors that contribute to its development and decline over time.

The Impact of the Education System on Creativity

Research indicate that Creativity diminishes with age, and one of the contributing factors to this decline is the education system. “Research firm Strategy One” (2012), conducted a poll with 5,000 adults from the United States, Germany, United Kingdom, France, and Japan, where 1,000 participants were surveyed per country. The findings revealed that 59% of respondents believed that our educational system stifles Creativity. This stifling effect often leads individuals to experience unhappiness and a sense of non-Accomplishment before their thirties. They struggle to identify their true passions and despise the activities they engage in, primarily because society dictates what they should do, rather than encouraging them to explore their own ideas and make independent decisions. Elite (2013) highlights that Creativity is unlearned due to the restrictive rules and regulations imposed on students within schools. Visionaries and great minds emphasize the significance of imagination, daydreaming, and embracing imperfections as crucial aspects that foster revolutionary ideas. However, educational systems frequently prioritize conformity, rote memorization, and following instructions, thereby discouraging critical thinking. Studies indicate that enforcing strict regulations not only stifles children's imagination but also hampers their development of essential life skills. In India, for example, the prevalence of rigid thought patterns in schools is a leading cause of student dropouts (National curriculum framework, 2005). A poignant example illustrating the detrimental effects of the education system on Creativity is the poem titled 'May Your Sky Always Be Yellow.' The poem was

penned by a senior high school student from Canada, just two weeks before tragically taking his own life. This powerful piece of writing resonates deeply, offering a voice to the countless students worldwide who undergo the struggle of having their unique individuality and Creativity overlooked or discouraged (Ditkoft, 2020). The story behind this poem is profoundly moving, as it exemplifies how the institutionalized education system can crush the Creativity and spirit of children. The child took his own life because he was compelled to conform and abandon his Creativity (Muzuzuzus, 2008). Recognizing the role of the education system in stifling Creativity, it becomes imperative to foster creative development at a young age. Hence, this research focuses on Primary School Children as the study population, aiming to enhance Creativity and explore ways to mitigate the detrimental impact of the education system.

Primary School Children

Primary School Children in India, typically aged 6 to 14 years, encompass students attending government educational institutions, local-body institutions, and private-aided or private institutions (National Centre on Education and Economy, 2006; The British Council, 2014). The primary education system in India is provided by both private and public schools, with a duration of 7-8 years. This education is divided into lower primary (Grades I to V, corresponding to ages 6 to 10 years) and upper primary (Grades VI to VIII, ages 11 to 13 years) levels. Common subjects taught in Karnataka include English, Hindi, Kannada, Mathematics, Social Science, and Environmental Science. It is important to note that primary education in India is synonymous with elementary education. The educational structure in India also includes secondary education (Grades IX and X, ages 14 to 15 years) and higher secondary education (Grades XI and XII, ages 16 to 17 years).

The primary education system in India serves as the foundation for students' academic journey, encompassing a wide range of institutions and subjects. By understanding the significance of education, particularly at the primary level, we can appreciate the role it plays in shaping the lives of young learners and the potential for Creativity-enhancing interventions within this educational context.

The Significance of Education

Education holds immense significance in an individual's life as it plays a pivotal role in personal, social, and economic development on both national and individual levels (Michalos, 2007). Education serves as a potential solution to issues like corruption (Tirana, 2012), unemployment (Albright, 2017), and environmental concerns (Nijhuis, 2011). It teaches individuals how to navigate and thrive within society rather than solely focusing on acquiring degrees (Kimball, 2015).

The significance of education in personal, social, and economic development is undeniable. Education empowers individuals with critical thinking skills, equips them to overcome challenges, and offers potential solutions to societal issues. However, the current state of the educational system reveals a departure from its historical purpose, with a focus on transactional instruction rather than holistic development.

Current State of the Educational System

An examination of the current educational system reveals a stark contrast to its historical purpose of instilling values and morals in individuals (NCERT, 2014). Today, education has been reduced to a transactional exchange of instructions and information. The commercialization of education has brought about significant changes in admissions procedures, teaching methods, and more (Kumar, 2016). Unfortunately, schools often stifle

Creativity by emphasizing the rote memorization of facts that are quickly forgotten, leading to a disregard for originality and innovation (Elite, 2013; Robinson, 2007).

Considering these observations, it becomes evident that the present education system restrains Creativity and that nurturing Creativity from a young age is crucial. As the saying goes, "Prevention is better than cure," addressing the limitations of the education system and fostering Creativity should be prioritized.

Models for Promoting Children's Creativity

There have been various models employed throughout history to promote children's Creativity. One widely utilized paradigm for encouraging Creativity is the Osborne-Parnes (1993) model, commonly applied in corporate improvement and education. This model employs divergent thinking in each phase to challenge assumptions, followed by convergent thinking to focus exploration. Torrance (1999) developed the Torrance's Incubation Model, which serves as an instructional design framework for incorporating the teaching of creative skills into any curriculum area. Educators familiar with this model, either instinctively or through training, would recognize its three-step approach. The first step involves heightening anticipation by stimulating students' interest, arousing curiosity, and generating a drive to learn. The second step focuses on deepening expectations, encouraging students to engage in Meaningful learning. Finally, the third step aims to extend the learning experience by providing students with incubation fuel to facilitate the transfer of learning beyond the classroom. In addition to these models, Plucker et al. (2011) mention in their book that two types of programs have been developed to foster children's Creativity. The first category comprises curriculum modifications such as the School Wide Enrichment Model, Mentor Connection, Talents Unlimited, Cognitive-Affective Interaction, and Purdue Creativity and

Enrichment Models. The second category encompasses extracurricular activities such as the Odyssey of the Mind and Future Problem-Solving programs, which may or may not be affiliated with a child's school.

Recognizing the limitations of the present system, it becomes evident that nurturing Creativity from a young age is crucial. In this regard, various models and programs have been developed to promote children's Creativity. One amongst them is PERMA Model.

Even though there are various models to enhance Creativity, in this study, the PERMA model has been chosen as the framework to enhance Creativity among children, considering its promising results in recent years.

Introduction to the PERMA Model for Enhancing Creativity

The PERMA flourishing model, introduced by Seligman (2011), consists of five domains related to psychological well-being: Positive Emotions (P), Engagement (E), Relationships (R), Meaning (M), and Accomplishment (A). This well-being model provides a framework based on positive psychology principles, aiming to increase health, life satisfaction, promote Creativity, and foster moral development and civic citizenship. Conner (2016), along with two American researchers, analysed surveys from over 650 young adults who kept daily online diaries for 13 days. The study explored the participants' well-being, daily Engagement in creative activities, levels of positive and negative emotions, and overall flourishing, which encompassed Meaning, purpose, Engagement, and social connection in their lives. The findings revealed that engaging in more creative activities than usual led to increased positive emotion and flourishing the following day, while negative emotions remained consistent. Wagner et al. (2019) conducted two studies demonstrating a robust association between character strengths, including Creativity, and various aspects of the

PERMA framework. These associations were consistent across different samples and methods. Fredrickson's (2004) broaden-and-build theory supports these findings by suggesting that an increase in Positive Emotions leads to broader thought-action patterns, fostering more creative, flexible, integrative, and open thinking and actions. Overall, the literature review suggests that the PERMA model plays a vital role in enhancing Creativity.

The Five Domains of the PERMA Model

Martin Seligman (2011) introduced the PERMA model, which encompasses five measurable components of well-being: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Seligman expanded on his original idea of genuine happiness, formulated in the year 2002, by incorporating the PERMA model. Happiness, as described by Seligman (2002), arises from the fusion of two philosophical principles: “Eudemonia”, which involves “living in accordance with one's own consciousness”, and “Hedonism”, which entails “pursuing pleasure while avoiding pain”. Seligman (2002) conceptualized happiness as a psychological state composed of three elements: Engagement, Meaning, and pleasure. Engagement refers to being fully immersed and cognitively, physically, emotionally, and emotionally involved in one's hobbies, work, or life. Pleasure involves the pursuit of Positive Emotions and the avoidance of negative emotions. Peterson and Seligman's (2004) initial empirical research on the authentic happiness hypothesis concluded that these three orientations—Engagement, Meaning, and Pleasure—are distinct, compatible, and associated with life satisfaction. This suggests that these three pillars are autonomous yet interrelated, can be actively cultivated through interventions, and can be pursued independently. However, Seligman (2011) emphasized that pursuing only these three elements is insufficient for long-lasting well-being. He posited those two additional components—establishing and maintaining healthy relationships and achieving significant

Accomplishments—are necessary for authentic happiness to manifest as overall wellness. These Positive Relationships and Accomplishments were integrated into Seligman's (2011) new theory, referred to as "PERMA." Seligman (2011) asserts that actively cultivating the pursuit of these five quantifiable components, encompassed within the PERMA model, can foster well-being. These components include experiencing Positive Emotions in the present (P), engaging in deep concentration or Flow (E), fostering loving and appreciative relationships (R), finding Meaning in something beyond oneself (M), and attaining significant personal or professional goals or a sense of mastery in a specific field of interest (A).

The Adapted Definitions of PERMA Components for Primary School Children

In this thesis, the researchers made adaptations to the definitions provided by Martin Seligman (2011) to define Positive Emotion, Engagement, and Relationships. Additionally, they utilized the definition presented by Frankl (1959) to define Meaning and the definition proposed by Butler and Kern (2015) to define Accomplishment. These definitions were deemed appropriate for the research population, which consisted of Primary School Children aged 11 to 13 years.

The following are the researchers' adapted definitions of PERMA:

P (Positive Emotion): What we feel, such as pleasure, rapture, ecstasy, warmth, and comfort (Seligman, 2011).

E (Engagement): Flow is about being one with the music, stopping time, and losing self-consciousness during an absorbing activity (Seligman, 2011).

R (Relationships): Relationships are feelings of being loved, supported, and valued by others. Having Positive Relationships with others is an important part of living a happy and fulfilling life (Seligman, 2011).

M (Meaning): Victor Frankl's theory of Logo Therapy is one of the most comprehensive theoretical conceptualizations of Meaning in life (Frankl, 1959). According to Frankl (1959), humans have a "will to Meaning," which he defines as a strong desire to find significance and Meaning in their lives.

A (Accomplishment): Accomplishment can be objective, as evidenced by honours and awards received, but feelings of mastery and Achievement are also important. It entails setting and achieving goals, as well as feeling capable of completing tasks and daily responsibilities (Butler & Kern, 2015).

The recognition of the significance of the PERMA model establishes a fundamental basis for the importance of the present research study. Subsequent sections will delve into a comprehensive exploration of the importance of the PERMA model and its implications for the current study.

Importance of PERMA Model

According to research, the PERMA model not only enhances Creativity but also plays a significant role in improving overall well-being, happiness, self-esteem, self-confidence, gratitude, and other positive variables. Studies have shown a positive relationship between each of the PERMA components and physical health, vitality, job satisfaction, life satisfaction, and organizational commitment (Kern, Waters, Alder, & White, 2014). Additionally, the PERMA model has been found to predict psychological distress better than

previous measures of distress, indicating that actively addressing PERMA components can not only enhance well-being but also reduce psychological distress (Seligman et al., 2011).

Implementing the PERMA model has the potential to create a happier and more productive workforce, whether it is utilized by individuals for self-development and stress management or by companies to foster a positive work environment (Corporate Finance Institute, 2018). The importance of the PERMA model is recognized across different age groups and various domains of life, such as work and social factors (Keseberg et al., 2017). During the COVID-19 pandemic, Singh (2020) found that applying the PERMA model, including Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment, can transform negative behaviours into positive perspectives, leading to happiness, inspiration, gratitude, increased self-confidence, and improved mental health among students.

The significance of the PERMA model is emphasized by Forman and Yanofsky (2021), who highlight its positive psychology framework consisting of five core elements that contribute to flourishing and long-term happiness. Living a Meaningful, fulfilled, and happy life can be facilitated through the implementation of PERMA. The five components of PERMA provide a comprehensive framework for cultivating a genuine and consistent state of contentment. Positive Emotions enhance performance, promote stronger relationships, and improve self-regulation. Engagement, also known as Flow, occurs when individuals apply their greatest strengths to overcome challenges and become fully engaged in activities. Accomplishment fosters self-esteem and provides a sense of fulfilment.

Given the importance of Creativity, particularly among Primary School Children, the PERMA model offers a promising approach to foster Creativity and should be further investigated in this context. By integrating the PERMA model into primary education,

children can develop their creative abilities and experience the many benefits associated with the PERMA components.

Even though Creativity can be enhanced through PERMA, Recognizing the potential negative consequences of Creativity prompts us to explore strategies to mitigate its harmful effects. In this context, Mindfulness emerges as a valuable tool that can help individuals navigate the challenges associated with Creativity and cultivate a balanced and responsible approach to their creative pursuits. By examining the role of Mindfulness in relation to Creativity, we can gain a deeper understanding of how to harness the positive aspects of Creativity while mitigating its potential drawbacks.

Exploring the Negative Side of Creativity and the Role of Mindfulness in Mitigating its Effects

To date, the focus of empirical and theoretical research on Creativity has largely been centered around its positive consequences or has assumed that Creativity only leads to favorable outcomes (James et al., 1999). Creativity has traditionally been defined as the use of innovative methods to produce useful outcomes, whether tangible or abstract. Discussions on Creativity often assume that it is universally valued by society. However, there exists a negative side to Creativity, which is referred to as "Negative Creativity" by James and Taylor (2010). This negative aspect arises when innovative ideas or actions lead to undesirable or harmful outcomes for individuals, groups, or society. Despite the recognition of this concept, limited theoretical and empirical work has been conducted on negative Creativity. In this regard, it is noteworthy that individuals with schizophrenia often exhibit behaviors and express viewpoints that are considered unconventional. Even individuals within the normal range of psychological functioning may sometimes be perceived as strange rather than

original in their thoughts and actions (Peterson and Seligman, 2004). The existing definitions of Creativity, as well as real-world examples, indicate that Creativity does not necessarily result in positive effects.

To mitigate the potential negative aspects of Creativity, the practice of Mindfulness is crucial. Regular Engagement in Mindfulness techniques has been found to enhance resilience, reduce stress, regulate emotions, and cultivate a more positive outlook (Rochie, 2014). By developing Mindfulness, individuals can effectively bounce back from setbacks and navigate challenges with greater ease (Philippe et al., 2021). From the above discussions on Mindfulness, it can be understood that the components of Mindfulness which involves being non-judgmental and fully present in the current moment, fosters clarity of thinking and can help prevent the emergence of negative Creativity.

The variable of Mindfulness not only plays a significant role in enhancing the PERMA components of well-being but also serves as a means of reducing what James and Taylor (2010) refer to as "Negative Creativity". This understanding supports the researcher's rationale for selecting Mindfulness as the mediating variable in the current study.

Historical Context for Mindfulness

Mindfulness can be best understood as a state of being rather than a specific activity, as almost any activity can be carried out mindfully (Naik et al., 2013). Derived from the Sanskrit word "Smrti," Meaning "that which is remembered," Mindfulness is deeply rooted in Buddhist traditions such as Zen, Vipasana, and Tibetan meditation techniques (Wilson, 2014; Mathew, 2017). Kabat-Zinn (1990) describes Mindfulness as "paying attention in a specific way: on purpose, in the present moment, and nonjudgmentally." Brown (2007) explains that “Mindfulness is a quality of consciousness that is evident in activities promoting it but is not

identical to those activities themselves". Cardaciotto et al. (2008) define "Mindfulness as the ability to be acutely aware of internal and external experiences while maintaining an accepting, non-judgmental attitude towards them". Penman (2015) states that "Mindfulness entails fully experiencing the present moment without dwelling on the past or worrying about the future, directing complete conscious attention to thoughts, feelings, and emotions without harsh judgment or criticism".

Mindful awareness exhibits three distinct characteristics (Naik et al., 2013): purpose, presence, and acceptance. Purpose refers to intentionally and purposefully directing one's attention, rather than allowing it to wander aimlessly. Presence entails wholehearted Engagement and attentiveness to the present moment, recognizing thoughts about the past or future as mere thoughts arising in the present. Acceptance involves adopting a non-judgmental stance towards whatever arises in the present moment. Sensations, thoughts, and emotions are observed without labelling them as good or bad, pleasant, or unpleasant; instead, they are acknowledged as transient phenomena passing through awareness.

The practice of Mindfulness has been associated with a wide range of benefits that extend beyond enhancing well-being and reducing negative Creativity. Research has demonstrated its positive influence on cognitive and academic performance, including improvements in attention, memory, and information processing.

The Multiple Dimensions of Mindfulness Benefits

There is mounting evidence supporting the numerous advantages of practicing Mindfulness, extending beyond enhancing well-being and reducing negative Creativity. Studies have shown that Mindfulness positively influences various aspects of cognitive and academic performance. It enhances the ability to stay prepared and maintain attention, boosts

short-term memory and processing speed, and improves information processing accuracy (Chan & Woollacott, 2007; Chambers et al., 2007; Slagter et al., 2007). Additionally, research has indicated that Mindfulness practice leads to structural changes in brain regions involved in self-awareness and sensory processing, resulting in thicker neural tissue (Lazar et al., 2005).

Mindfulness also has substantial benefits for health and well-being. It has been found to effectively reduce anxiety, stress, and depression, supporting better emotional regulation, and increasing positive psychological states (Hofmann et al., 2010; Jain et al., 2007). Moreover, Mindfulness practice contributes to reducing burnout, thus promoting overall well-being (Goodman & Schorling, 2012).

In terms of relationships, Mindfulness has been shown to enhance Creativity, foster the development of interpersonal relationship skills, and cultivate empathy and compassion (Horan, 2009; Gambrel & Keeling, 2010; Neff et al., 2007).

The summary of the above studies suggest that practicing Mindfulness offers a wide range of physical and psychological benefits, including increased Creativity and overall well-being. It positively impacts cognitive and academic performance, improves mental health and emotional well-being, and enhances interpersonal relationships. These findings emphasize the significance of incorporating Mindfulness into daily life to nurture a more fulfilling and balanced existence.

Conclusion

Based on the preceding introduction, it can be inferred that fostering Creativity in children from a young age is crucial. If Creativity is not nurtured during childhood, young adults may feel stagnant in life, leading to frustration. The PERMA model has demonstrated

promising results in enhancing Creativity across different populations. When individuals focus on the combination of all PERMA elements—Positive Emotions, Meaning, Engagement, relationships, and Achievement—not only does Creativity increase, but they also experience greater happiness and overall well-being compared to those who have not developed these elements. By consistently incorporating Positive Emotions, Engagement, healthy relationships, Meaning, and Accomplishments into one's life, individuals can better navigate life's challenges and fully enjoy its blessings. Mindfulness is chosen as the mediating variable in this study. It plays a vital role in enhancing PERMA and Creativity while also reducing what James and Taylor (2010) refer to as "Negative Creativity." Previous research on Creativity has primarily focused on positive outcomes, but Creativity can potentially produce damaging or unfavourable results for individuals, groups, or society. Mindfulness serves to mitigate the negative aspects of Creativity because of the components to Mindfulness such as Acceptable, non-judgmental, ability to bounce back, and clarity in thinking. Thus, the present study is motivated by the introduction and the need to address this gap in the existing literature.

Need for the Present Study

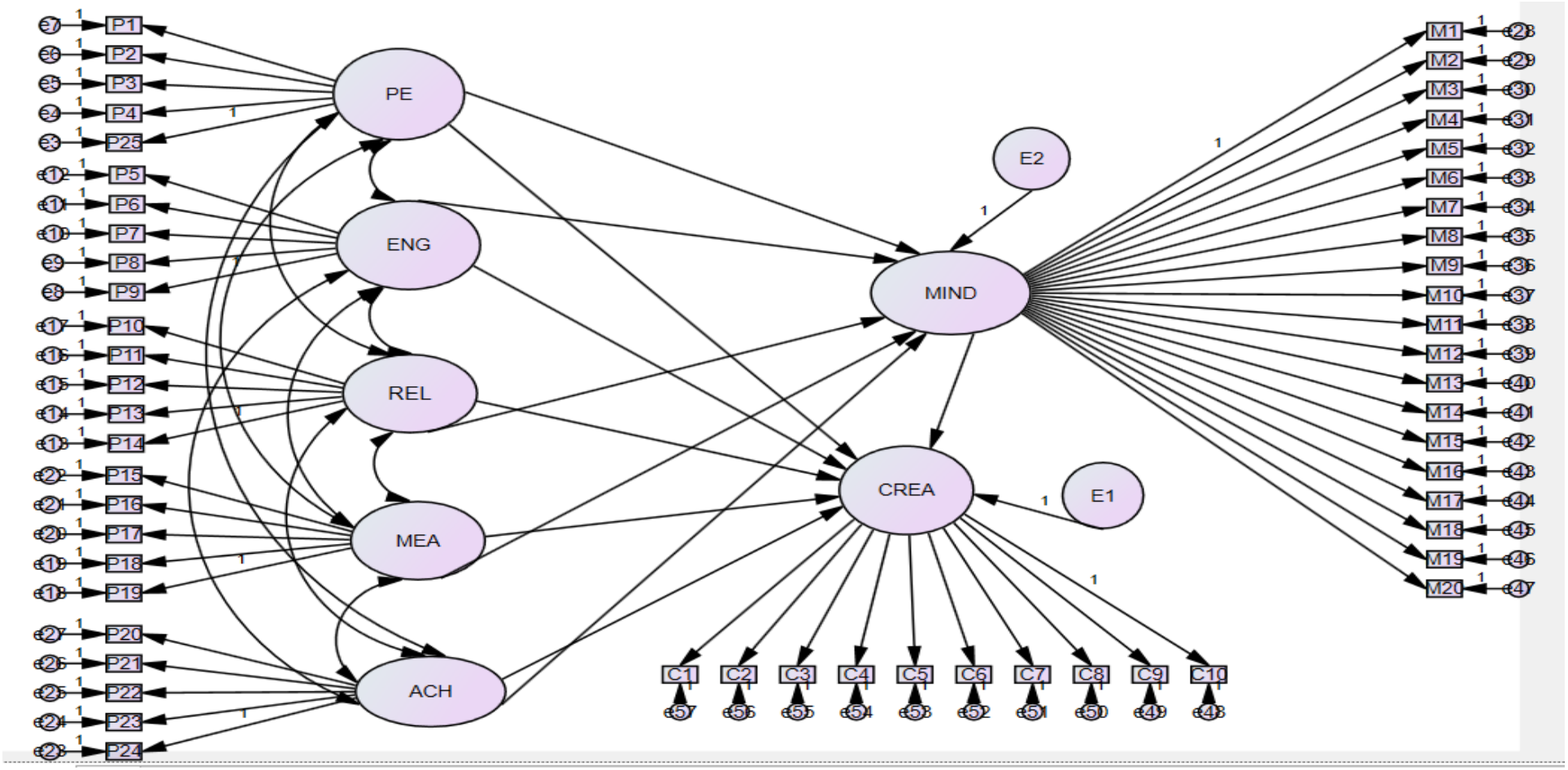
The need for this study arises from the universal desire to lead a creative and happy life. Previous research suggests that PERMA and Mindfulness have a significant impact on enhancing individual Creativity. However, the assumption made in the preceding discussions regarding the relationship between PERMA, Mindfulness, and Creativity requires empirical investigation. Moreover, there is a scarcity of research focusing on children aged 11-13 (the primary age group), particularly within the Indian population relating the study variables. This knowledge gap highlights the importance of conducting this study with Primary School Children.

The research on Primary School Children is crucial because it aligns with the principle of "Prevention is better than cure." It is preferable to prevent future challenges and difficulties by fostering Creativity and Mindfulness at a young age, rather than attempting to address these issues later in life.

Based on the reviews conducted, a theoretical model has been constructed to understand the sequential influence of these variables. This model aims to bridge the existing knowledge gap and provide a foundation for further research and the development of interventions based on the insights gained from this study.

Figure 1.1

Theoretical Conceptual SEM model



Assumptions of the Study

The assumptions of the study are as follows:

The participants of the study provide accurate and truthful information. The researcher assumes that the participants have responded honestly to the tools used for data collection.

The study assumes that the development of a PERMA-based Mindfulness model will enhance Creativity among Primary School Children. It is hypothesized that incorporating PERMA elements into the Mindfulness model will have a positive impact on Creativity in this age group.

The study assumes that Primary School Children have the potential to improve their Creativity through the proposed PERMA-based Mindfulness model. The researcher assumes that by implementing this model, children will experience enhanced Creativity compared to those who do not undergo the intervention.

Overall, these assumptions serve as the foundation for investigating the relationship between PERMA elements, Mindfulness, and Creativity in this specific context.

Definitions in the Study

- Creativity: Peterson & Seligman's (2004) defines Creativity as "thinking of novel and productive ways to conceptualize and do things; includes artistic Achievement but is not limited to it" (pp. 29). “The essential elements of Creativity are originality plus adaptiveness” (Peterson & Seligman, 2004, pp. 110).

- Mindfulness: According to Cardaciotto, et. al., (2008), “Mindfulness is defined as the tendency to be highly aware of one’s internal and external experiences in the context of an accepting, non-judgmental stance toward those experiences”.
- P (Positive Emotion): “What we feel: pleasure, rapture, ecstasy, warmth comfort and the like” (Seligman, 2011).
- E (Engagement): “Engagement is about Flow: being one with the music, time stopping, and loss of self-consciousness during an absorbing activity” (Seligman, 2011).
- R (Relationships): “Relationships refer to feeling loved, supported, and valued by others. Having Positive Relationships with others is an important part of life feeling good and going well” (Seligman, 2011).
- M (Meaning): One of the fullest theoretical conceptualizations of Meaning in life is Victor Frankl’s theory of Logo Therapy (Frankl, 1992). Frankl (1992) posited that human beings have a “will to Meaning”, which he defined “as a powerful drive to find significance and Meaning in their lives”.
- A (Accomplishment): “Accomplishment can be objective, marked by honours and awards received, but feelings of mastery and Achievement is also important. It involves working toward and reaching goals and feeling able to complete tasks and daily responsibilities” (Butler & Kern, 2015).

CHAPTER 2

REVIEW OF LITERATURE

The present study focuses specifically on the Creativity of Primary School Children and aims to contribute to the existing literature in this area by conducting a comprehensive review of relevant studies. The literature review was conducted to gain a deeper understanding of the issues surrounding Creativity among Primary School Children and to identify gaps in the current research that need further exploration. It is worth noting that despite the recognition of Creativity as a crucial life skill by prominent organizations such as the World Health Organization, there is still a need for more research, particularly among Primary School Children.

The review of literature aimed to shed light on the role of positive psychology variables in enhancing Creativity. Positive psychology emphasizes the study of factors that contribute to well-being and flourishing, and it offers valuable insights into the promotion of Creativity. Two significant variables that emerged during the literature review were Mindfulness and PERMA, which stands for Positive Emotions, Engagement, Relationships, Meaning, and Accomplishment. These variables have been shown to have a positive impact on various aspects of individuals' lives, including their Creativity.

By examining the existing literature, this review lays the groundwork for further research on the relationship between Creativity, PERMA, and Mindfulness among Primary School Children. It provides a foundation for understanding how these variables interact and influence each other in the context of Creativity. The review also highlights the importance of studying Creativity among Primary School Children, as it is a critical developmental period that can significantly impact individuals' well-being throughout their lifespan.

Overall, this literature review serves as a crucial starting point for the present study, providing a comprehensive overview of the existing research on Creativity, PERMA, and

Mindfulness. By building upon the findings and insights from the literature, the study aims to contribute to a better understanding of how positive psychology variables can enhance Creativity among Primary School Children.

The subsequent section of the study provides detailed explanations and insights into the methods, techniques, and sources used to search for data.

Methods of Searching

The search strategy employed for this literature review involved the use of specific keywords that were directly related to the study's objectives. The selected keywords included terms such as Creativity, Positive Emotions, Relationships, Meaning in Life, Achievement, and Accomplishment. By incorporating these keywords into the search, the aim was to identify scholarly literature that was most relevant to the study and would provide valuable insights into the relationship between these variables.

The literature search was conducted across various databases and resources, including online platforms such as Web of Science, Shodhganga, J Gate, Academia, ResearchGate, and Springer, as well as physical libraries. These sources ensured access to a wide range of peer-reviewed research journals and books, offering a comprehensive collection of scholarly materials.

In total, 512 papers were initially identified and reviewed as part of the literature search. However, through a careful selection process, focusing on relevance and alignment with the study's objectives, 130 research papers were deemed to be directly pertinent to understanding the relationship between Creativity, PERMA, and Mindfulness among Primary School Children. These 130 papers were thoroughly examined and analysed to extract valuable insights and consolidate the existing knowledge in this area.

The reviewed research papers were then organized and presented in a logical and coherent order, ensuring a structured approach to the literature review. The arrangement of the reviews followed a specific order that allowed for a systematic exploration of the relationship between Creativity, Positive Emotions, relationships, Meaning in life, Achievement, Accomplishment, and Mindfulness. This order aimed to provide a comprehensive understanding of the interplay between these variables and their impact on enhancing Creativity among Primary School Children.

In nutshell, the reviews are arranged in the following order based on its relevance:

- Definitions of Creativity
- The Four Ps of Creativity: Person, Process, Product, and Place
- Creativity as a Social Phenomenon: Simonton's Perspective
- Relationship between PERMA and Creativity
- Relationship between Positive Emotions and Creativity
- Relationship between Engagement and Creativity
- Relationship between Positive Relationships and Creativity
- Relationship between Meaning and Creativity
- Relationship between Achievement and Creativity
- Interconnections among the elements of PERMA
- Relationship between PERMA and Mindfulness
- Relationship between Positive Emotions and Mindfulness
- Relationship between Engagement or Flow and Mindfulness
- Relationship between Positive Relationships and Mindfulness
- Relationship between Meaning and Mindfulness

- Relationship between Achievement and Mindfulness
- Relationship between Mindfulness and Creativity

The review of literature chapter begins with the Definitions of Creativity chapter.

Definitions of Creativity

In addition to the definitions given in the introduction, there are various definition, which gives the better understanding to the domains of Creativity. They are mentioned below.

Gardner (1993) defined a creative individual as someone who consistently finds solutions, creates new products, or poses novel questions within a specific domain, which eventually gain acceptance in a cultural context. Feldman (1994) described Creativity as the purposeful transformation of knowledge, resulting in a significant and irreversible change in that body of knowledge. Csikszentmihalyi (1996) proposed that Creativity emerges through the interaction of three elements: a culture with symbolic rules, an individual who introduces novelty into the symbolic domain, and a community of experts who recognize and validate the innovative contributions. These definitions collectively demonstrate the tripartite division of Creativity, with Gardner focusing on the individual, Feldman emphasizing the role of domains, and Csikszentmihalyi highlighting the social contexts or fields in which Creativity manifests. The integration of these elements is captured in Csikszentmihalyi's comprehensive definition.

In addition to the models outlined in the introduction, the literature presents various other models and perspectives that contribute to our understanding of Creativity. While the previously discussed definitions and models provide a solid foundation, exploring alternative perspectives can further enrich our comprehension of the complex nature of Creativity. These

additional models offer unique insights, theories, and frameworks that help us grasp the multifaceted aspects of creative thinking and expression. By examining these alternative models, we can gain a more comprehensive understanding of Creativity and its underlying mechanisms.

The Four Ps of Creativity: Person, Process, Product, and Place

According to Rhodes (1961), Creativity can be understood through four fundamental elements known as the four Ps: Person, Process, Product, and Place. Each of these elements contributes to our understanding of the complex nature of Creativity.

The first P, the creative person, emphasizes the individual who engages in creative thinking and expression. This aspect recognizes that certain personality traits and characteristics are strongly associated with higher levels of Creativity. Traits such as openness to experience, divergent thinking, curiosity, and willingness to take risks have been found to be common among creative individuals. Understanding the role of the creative person allows researchers and practitioners to explore the individual factors that contribute to the creative process and outcomes.

The second P, the creative process, focuses on the procedures and methods employed by individuals in developing their creative products. This includes the cognitive and behavioural processes that underlie creative thinking, problem-solving, and idea generation. Examining the creative process provides insights into the strategies, techniques, and approaches used by individuals to foster Creativity. It helps identify the cognitive and behavioural mechanisms that facilitate originality, fluency, flexibility, and elaboration in creative endeavours.

The third P, the creative product, refers to the outcome or result of the creative process. It can take various forms, including physical objects, artistic creations, scientific theories, technological innovations, and conceptual ideas. By studying the creative product, researchers can analyse its uniqueness, quality, impact, and originality. Understanding the characteristics and attributes of creative products allows for the assessment and evaluation of creative outcomes across different domains.

The fourth P, Place/Press, represents the environmental factors that influence the creative person and their creative endeavours. "Place" refers to the physical and social context in which Creativity occurs. It includes factors such as the physical workspace, availability of resources, and social support systems. "Press" refers to the social, cultural, and organizational climate that either fosters or hinders Creativity. This encompasses factors like social norms, leadership styles, reward systems, and collaboration opportunities. Recognizing the role of the environment in shaping Creativity is crucial as it highlights the importance of creating supportive and conducive environments that facilitate and encourage creative thinking and expression.

In conclusion, the four Ps of Creativity (Person, Process, Product, and Place) offer a comprehensive framework for understanding Creativity. By considering these elements, researchers and practitioners can gain valuable insights into the multifaceted nature of Creativity and how it can be nurtured or inhibited in different contexts. Recognizing the importance of the creative person, the process they employ, the resulting product, and the environmental factors that influence their creative endeavours contributes to a holistic understanding of Creativity and informs the development of strategies to foster and support creative thinking and expression.

Moreover, Simonton (2000) sheds light on Creativity as a social phenomenon, offering a valuable perspective that complements the understanding provided by the four Ps framework.

Creativity as a Social Phenomenon: Simonton's Perspective

Simonton (2000) provides a comprehensive overview of the history of the concepts of Creativity. Over time, significant progress has been made in understanding the creative process, the individuals who engage in creative thinking, and the resulting products of their efforts. Moreover, Creativity has transitioned from being a fringe topic to a prominent subject of study within psychological research. This shift is evident in the growing number of sub-disciplines that recognize and explore Creativity as a valuable area for empirical and theoretical investigation.

However, Simonton (2000) highlights the insufficiency of existing studies and emphasizes the need for further understanding of Creativity as a social phenomenon, as well as the development of more robust theories. To achieve this, he suggests two important enhancements. First, theories of Creativity should strive for greater explanatory power, moving beyond a singular focus on one aspect of the complex phenomenon. A comprehensive theory should encompass the creative process, the creative person, the creative product, and the socio-cultural environments that influence all three.

Overall, the exploration of alternative models and perspectives on Creativity enriches our understanding of this complex phenomenon. By considering the four Ps of Creativity and acknowledging Creativity as a social phenomenon, researchers and practitioners can develop more comprehensive frameworks and strategies to nurture and support creative thinking and expression. Continued investigation and integration of these alternative models will

contribute to a more nuanced and holistic understanding of Creativity in various domains and contexts.

Once a comprehensive understanding of the fundamental concepts of Creativity was established, the researcher proceeded to investigate the potential relationship between PERMA (Positive Emotions, Engagement, Relationships, Meaning, and Achievement) and Creativity. The rationale behind investigating the relationship between PERMA and Creativity lies in the belief that positive psychological states and experiences can play a significant role in promoting and enhancing creative thinking and expression. By examining the influence of Positive Emotions, Engagement, Relationships, Meaning, and Achievement on Creativity, the researcher aimed to shed light on the potential mechanisms through which PERMA factors contribute to creative outcomes.

Relationship between PERMA and Creativity

It can be inferred that the PERMA variables, including Positive Emotions, Engagement, Relationships, Meaning, and Accomplishment, play a significant role in enhancing Creativity. Likewise, Creativity has been shown to positively impact subjective well-being. The relationship between the PERMA variables and Creativity is bidirectional, with each factor mutually influencing and reinforcing the other (Seligman, 2011; Wagner et al., 2019; Tan et al., 2021).

The upcoming section of the research delves into the exploration of the relationship between Positive Emotions and Creativity. It aims to investigate how Positive Emotions influence creative thinking and the generation of innovative ideas. By examining the connection between Positive Emotions and Creativity, researchers seek to gain a deeper

understanding of how positive emotional experiences contribute to the enhancement of creative processes and outcomes.

Relationship between Positive Emotions and Creativity

Collectively, these research studies provide evidence for the positive relationship between Positive Emotions and Creativity. Positive Emotions contribute to expansive thinking, facilitate inspiration, enhance well-being, and shape the evaluation of creative ideas (Fredrickson, 2004; Yuan, 2015; Conner, 2016; Langley, 2018; Mastria et al., 2019).

After establishing an understanding of the relationship between Positive Emotions and Creativity, the researcher subsequently directed her attention towards comprehending the connection between Engagement and Creativity.

Relationship between Engagement and Creativity

Csikszentmihalyi's (2002) concept of Flow highlights the genuine satisfaction people experience when fully engaged in activities that tap into their creative abilities. The studies reviewed in this summary provide valuable insights into the connections between learning interest, Flow, and Creativity. The findings suggest that learning interest directly influences both Flow and Creativity, with the enjoyment and clear goal aspects of Flow mediating this relationship. Enjoyment plays a particularly significant role in fostering creative tendencies. Similarly, the research on curiosity dimensions reveals that higher levels of joyous exploration curiosity, knowledge-deprivation sensitivity, and stress tolerance are associated with increased Flow experiences, which in turn enhance Creativity. These findings collectively underscore the importance of fostering enjoyable and goal-oriented Flow experiences to promote creative Engagement and fulfilment (Dan, 2020; Schutte & Malouff, 2020).

After understanding the relationship between Engagement and Creativity, it is important to understand the relationship between Positive Relationships and Creativity as it is the third component in PERMA model.

Research has shown that Positive Relationships can have a significant impact on an individual's creative potential and output. When individuals feel supported, valued, and connected in their relationships, they are more likely to feel safe to express their ideas, take risks, and explore new possibilities. Following are the research which supports the mentioned idea.

Relationship between Positive Relationships and Creativity

The studies conducted by Perry-Smith (2006), Zhou et al. (2009), and Tan et al. (2022) shed light on the complex interplay between social relationships and Creativity. The findings emphasize the importance of maintaining a balance between strong and weak ties, as well as the significance of one's position in the social network. Furthermore, the studies highlight the role of personal values and perceived social support in fostering Creativity. These insights contribute to a more comprehensive understanding of how social factors influence individual Creativity.

Building upon the exploration of Positive Relationships and Creativity, the researcher now turned her attention to the relationship between Meaning and Creativity.

Relationship between Meaning and Creativity

In conclusion, these findings collectively suggest that Creativity and the search for Meaning are intertwined, reinforcing the importance of fostering Creativity to enhance

individuals' sense of purpose (Frankl, 1992; Allen et al., 2014; Kaufman, 2018; Han et al., 2023) and well-being (Liddle et al., 2013).

Building on the connection between Creativity and Meaning, we now delve into the relationship between Achievement and Creativity.

Relationship between Achievement and Creativity

The research conducted by Bano (2021) found no correlation between Creativity and academic performance among undergraduate students. However, the study by Kalaivani and Suguna (2018) indicated a positive and significant correlation between Creativity and Achievement among higher secondary students. The research by Nami et al. (2014) suggested a positive and significant relationship between different components of Creativity and Academic Achievement. In contrast, the study by R. A. Olatoye et al. (2010) contradicted these findings, showing that higher levels of Creativity were associated with lower CGPA scores among Nigerian students. This highlights the complexity of the relationship between Creativity and academic success, suggesting that Creativity alone does not guarantee Achievement.

Building on the varied findings regarding the relationship between Creativity and Achievement, we now shift our focus to the interconnections among the elements of PERMA.

Interconnections among the elements of PERMA

the studies conducted by Kern et al. (2014), Goodman et al. (2017), and Merritt et al. (2022) collectively demonstrate the interconnectedness and interdependencies among the elements of PERMA.

Further review was done to examine the interplay between PERMA and Mindfulness, so that the researcher can gain valuable insights into the potential synergistic effects of these constructs and how they can mutually support and enhance each other.

Relationship between PERMA and Mindfulness

The studies collectively underscore the positive impact of Mindfulness and mindful self-care on well-being and resilience, and the potential of Mindfulness interventions within the PERMA framework to enhance overall well-being (Liu et al., 2022; Varan, 2022; Crider, 2021; Campbell, 2021).

Having discussed the relationship between PERMA and Mindfulness, it is important to delve into the specific components of PERMA and their connection to Mindfulness. One such component is Positive Emotions, which has been the focus of research exploring the interplay between Mindfulness and positive affect. By examining the relationship between Positive Emotions and Mindfulness, researcher can gain valuable insights into how cultivating Positive Emotions can enhance Mindfulness practices and vice versa.

Relationship between Positive Emotions and Mindfulness

these studies collectively emphasize the importance of Mindfulness in enhancing well-being, emotional regulation, happiness, and performance (Killingsworth & Gilbert, 2010; Davis & Hayes, 2011; Corcoran et al., 2010; Campos et al., 2015; Coo & Salanova, 2017; Du et al., 2019).

Further, Understanding the relationship between Flow and Mindfulness can deepen our understanding of how these states of consciousness contribute to well-being and optimal functioning.

Relationship between Engagement or Flow and Mindfulness

Mentioned studies confirmed the significant correlations between Flow, Mindfulness, and self-talk (Komagata & Komagata, 2010; Adins, 2013; Bervoets, 2013).

The further reviews delve into the existing literature to provide insights into the ways in which relationships may promote Mindfulness, shedding light on the reciprocal relationship between Mindfulness and interpersonal connections.

Relationship between Positive Relationships and Mindfulness

The studies collectively highlight the positive impact of Mindfulness on relationship outcomes and provide insights into the mechanisms through which Mindfulness influences romantic relationships (Carson et al., 2004; Brown et al., 2007; Karremans et al., 2017; Kappen et al., 2018).

Moving to the next section, we delve into the relationship between Meaning in life and Mindfulness, it becomes evident that these two constructs are intricately intertwined.

Relationship between Meaning in life and Mindfulness

The studies collectively highlight the connection between Mindfulness and Meaning in life, emphasizing the role of authenticity and other psychological factors (Allan et al., 2014; Young, 2014; Knights, 2016; Srikumaran et al., 2022).

Additionally, the relationship between Achievement and Mindfulness has garnered significant attention in research, particularly in the context of academic performance. The studies discussed in this review provide valuable insights into the interplay between Mindfulness and Achievement, shedding light on how Mindfulness practices can potentially enhance various aspects of performance and cognitive functioning.

Relationship between Achievement and Mindfulness

The studies collectively suggest that Mindfulness may contribute to improved academic performance and mitigate the negative effects of loneliness on academic Achievements (Teodorczuk, 2013; Rosenstreich & Margalit, 2015; Lu et al., 2017).

The studies reviewed in this section provide insights into how Mindfulness practices can positively impact creative thinking and expression.

Relationship between Mindfulness and Creativity

The studies collectively support the notion that Mindfulness and meditation practices can enhance Creativity (Horan, 2009; Greenberg et al., 2012; Capurso et al., 2014; Colzato et al., 2014; Lebuda et al., 2015; Penman, 2015; Poure, 2016; Butzer et al., 2017).

CHAPTER 3

METHOD

This chapter provides a comprehensive overview of the research design and methodology employed in the study. It outlines the research questions, objectives, hypotheses, research design, sample size, sampling technique, data collection tools, data collection procedure, ethical considerations, and statistical techniques. This thorough explanation of the research methodology sets the foundation for the subsequent chapters and ensures a systematic and rigorous approach to the research study.

Building upon the need for the study, the formulated research questions serve as a guide for the study, directing the focus towards specific aspects related to Creativity, Mindfulness, and their relationship among Primary School Children.

Research Questions

Following are the research question derived from the study's needs.

- Does Positive Emotion affect Mindfulness, which in turn affects Creativity among Primary School Children?
- Does Engagement affect Mindfulness, which in turn affects Creativity among Primary School Children?
- Does Positive Relationship affect Mindfulness, which in turn affects Creativity among Primary School Children?
- Does Meaning affect Mindfulness, which in turn affects Creativity among Primary School Children?
- Does Accomplishment affect Mindfulness, which in turn affects Creativity among Primary School Children?

The research questions outlined above serve as the foundation for the study's objectives, which aim to address the various aspects related to Positive Emotions,

Engagement, relationships, Meaning, Accomplishment, Mindfulness, and Creativity among Primary School Children.

Objectives of the Study

The research objective has been designed based on the study's research questions, and the objectives are as follows:

- To assess Positive Emotions, Engagement, Relationships, Meaning, Achievement, Mindfulness and Creativity among Primary School Children.
- To find the relationship between the study variable.
- To develop PERMA based model, to enhance Mindfulness, which in turn enhances Creativity among Primary School Children.

The formulated hypotheses build upon the research objectives and provide specific assertions that will be tested in the study. These hypotheses aim to examine the relationships between the PERMA variables (Positive Emotions, Engagement, Positive Relationships, Meaning, and Achievement), Mindfulness, and Creativity among Primary School Children.

Hypotheses

To meet the above objectives the following hypotheses were formulated.

H_1: PERMA variables affect Mindfulness, which in turn affects Creativity among Primary School Children.

H_{1a}: There is a significant relationship between Positive Emotions and Mindfulness, which in turn affects Creativity among Primary School Children.

H_{1b}: There is a significant relationship between Engagement and Mindfulness, which in turn affects Creativity among Primary School Children.

H_{1c}: There is a significant relationship between Positive Relationships and Mindfulness, which in turn affects Creativity among Primary School Children.

H_{1d}: There is a significant relationship between Meaning and Mindfulness, which in turn affects Creativity among Primary School Children.

H_{1e}: There is a significant relationship between Achievement and Mindfulness, which in turn affects Creativity among Primary School Children.

The first hypothesis (H_1) proposes that the PERMA variables will have an impact on Mindfulness, which, in turn, will influence Creativity. The subsequent hypotheses ($H1_a$-$H1_e$) explore the individual relationships between Positive Emotions, Engagement, Positive Relationships, Meaning, Achievement, Mindfulness, and Creativity. By formulating these hypotheses, the study establishes a clear framework for analysing and assessing the relationships between the variables of interest.

To investigate the hypotheses systematically and structurally, a specific research design was utilized for data collection.

Research Design

In this study, the researcher used a Correlation research design with survey method of data collection. The survey method was utilized as the primary data collection tool, enabling the collection of self-report data from Primary School Children. This research design ensures a systematic and structured approach to investigating the relationships between PERMA variables, Mindfulness, and Creativity among Primary School Children.

With the research design established, the next step involved selecting an appropriate sample that would enable the investigation of the relationships between PERMA variables, Mindfulness, and Creativity among Primary School Children. The next section provides a description of the sample, including details on the participants' characteristics and the sampling method used. Additionally, it highlights the rationale behind determining the sample size and the fulfilment of the minimum sample size criteria for the study.

Sample Description

To ensure the appropriateness and relevance of the study's findings, based on the above operational definition, specific inclusion criteria were established for selecting the participants. This section outlines the inclusion criteria employed in the study, which focused on primary school students.

“In India, Primary School Children, are those aged 6 to 14 years who attend government educational institutions, local-body institutions, private-aided or private institutions” (National Centre on Education and Economy, 2006; The British Council, 2014). In the present study, Primary School Children are the children who are belonging to the age group of 11 to 13.

Inclusion Criteria

The first inclusion criterion required participants to be currently attending primary school. This criterion ensured that the study targeted the intended population of Primary School Children, who are at a critical stage of development and learning. By including students from primary school settings, the study aimed to capture the experiences and perspectives of individuals who are actively engaged in the educational system.

The second inclusion criterion specified that participants should fall within the age group of 11 to 13 years. This age range was chosen to target children in the later years of primary school, where they have developed cognitive and linguistic abilities that are relevant to the study's objectives. By focusing on this specific age range, the study aimed to examine the relationships between PERMA variables, Mindfulness, and Creativity among Primary School Children who are in a similar developmental stage.

Furthermore, participants were required to possess the ability to read, write, and communicate in English. This criterion ensured that the participants had a sufficient command of the English language to comprehend the study materials and provide accurate responses. By selecting participants who were proficient in English, the study aimed to minimize potential language barriers that could affect the accuracy and reliability of the data collected.

The application of these inclusion criteria enabled the study to target a specific population of Primary School Children who met the necessary criteria for active Engagement and effective participation in the research. By ensuring that the selected participants possessed the required skills and abilities, the study aimed to gather Meaningful data that would contribute to a comprehensive understanding of the relationships between PERMA variables, Mindfulness, and Creativity among Primary School Children.

Sampling Method

To select the participants, a purposive sampling method was utilized. This sampling approach allowed the researcher to deliberately choose participants who met specific criteria, such as being within the target age range and attending schools in the selected states. By

employing purposive sampling, the researcher ensured that the sample was representative of the population of interest, increasing the generalizability of the study findings.

Sample Characteristics and Selection

The sample for this study consisted of 1809 participants, all between the ages of 11 and 13 years. The participants were selected from various schools located in Karnataka, Maharashtra, and Telangana states in India. This geographic representation was chosen to ensure diversity and to capture a broader range of experiences and perspectives among Primary School Children.

Sample Size Determination Method

For the analysis of the collected data, the researcher opted to use the Structural Equation Model (SEM). To determine the appropriate sample size for the study, a priori analysis was conducted following the guidelines proposed by Soper (2022). The results of the analysis indicated that the minimum sample size required to detect the desired effects was 1599 participants, while the minimum sample size for modeling the structural relationships was determined to be 848 participants. Moreover, the recommended minimum sample size was also identified as 1599 participants. Given that the actual sample size for the present study is 1809 participants, it exceeds both the minimum requirements and the recommended sample size criteria, ensuring enough participants for a robust analysis.

By employing a purposive sampling method and exceeding the recommended sample size, the study aims to provide reliable and valid insights into the relationships between PERMA variables, Mindfulness, and Creativity among Primary School Children.

In the subsequent section, an extensive explanation of the tools used in the study is provided.

Tools Used

To gather the necessary information for this study, the researcher employed suitable tools and techniques, including socio-demographic data sheets and questionnaires, to measure the study variables of Creativity, Mindfulness, and PERMA. In addition to collecting basic information about the participants, the researcher developed specific tools for assessing Creativity and PERMA, while adapting an existing Mindfulness scale for Indian children. The methodologies used for the development of these tools are outlined below, providing insights into the process of tool development and adaptation for this study.

The socio-demographic data sheet was developed by the interviewer to collect basic information about the participants, including their age, gender, grade, school name, and place of residence (see Appendix B"). This information was essential for characterizing the sample and understanding the demographic characteristics of the participants.

Steps followed in Tool Construction

Initial steps in tool construction includes planning of the test and item writing.

Planning of the test

The researcher engaged in systematic planning to develop a standardized test. The objectives of the test were carefully defined, and the type of content to be included was determined. It was decided to construct multiple-choice questions for the test. Discussions with the research guide took place to ensure alignment with the research goals. Subsequently, a blueprint was prepared, outlining the sampling method and specifying requirements for the

preliminary and final administration of the test. Permission to collect data was obtained from the school heads. The test's length, approximate completion time, and the number of questions were established. Detailed instructions were provided for the test administration and scoring process. Further elaboration on the construction of each tool will be provided in the following relevant paragraphs.

Writing items of the test

To ensure the quality and effectiveness of the assessment tools, the researcher implemented several important measures during their development. These measures aimed to enhance the clarity, validity, and reliability of the tools and involved various stages of scrutiny and expert feedback.

In the initial stage, the researcher acquired a comprehensive understanding of the subject matter to ensure accurate and Meaningful item development. The wording of the items was carefully chosen to be simple, descriptive, and easily comprehensible for all participants. To avoid confusion, the researcher expanded her vocabulary and exercised caution, especially when constructing items. Non-functional terms that could reduce item validity were avoided, and the complexity of the items was adjusted to match the participants' level of comprehension.

To further enhance the quality of the items, the researcher took precautions to avoid including stereotyped terms in the stem or alternative replies. This step was crucial to prevent rote learners from estimating the correct answer based on irrelevant hints. Moreover, irrelevant hints were omitted to maintain the integrity and validity of the assessment.

Once the items were drafted, they underwent a rigorous evaluation process. The researcher sought the expertise of six experts from various universities in Karnataka who

specialized in Psychology and English. These experts reviewed the items to crosscheck for any subject-related or language errors. Their valuable suggestions and feedback contributed to refining the items and ensuring their accuracy and appropriateness (refer to Appendix B for more details).

Separate blueprints were prepared for each tool, containing essential information such as the Meaning of the variables, instructions, items, and scoring procedures (see Appendix F"). The blueprints served as comprehensive guidelines for the administration and scoring of the assessments.

Overall, the researcher developed three distinct tools: The Children's Creativity tool, The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children), and the Children's PERMA tool. Each tool underwent careful item development, expert scrutiny, and validation to ensure their effectiveness in measuring the respective constructs of Creativity, Mindfulness, and PERMA variables.

Detailed explanation of the tool construction for each tool is explained below:

The Children's Creativity Tool

Creativity holds significant importance in an individual's life as it can lead to a more profound and Meaningful sense of well-being. Assessing and enhancing Creativity among children is crucial for their development and overall purpose in life. In this study conducted in 2021, the researcher developed a tool to assess the Creativity of Primary School Children aged 11 to 13. The tool focuses on measuring originality, adaptiveness, and usefulness through a questionnaire method. It consists of ten Likert-scale items, with response options

ranging from "Never" to "Always", i.e., “Never”, “Rarely”, “Sometimes”, “Often”, and “Always”. The scoring of the tool ranges from 0 to 4.

Initially, the Creativity tool included two parts: Part A (Verbal section) and Part B (Non-Verbal section), assessing originality and adaptiveness using different methods. To refine the tool, an expert committee comprising professionals from six different universities in Karnataka, specializing in psychology and with experience working with children, was formed. Based on the expert opinions, the non-verbal section was eliminated from the tool due to its limited relevance in the study.

Reliability

Reliability, which refers to the consistency and stability of measurement, was assessed by calculating the internal consistency reliability coefficient using Cronbach's alpha. The Creativity tool demonstrated a high internal consistency reliability coefficient of Cronbach $\alpha = .804$, indicating that the items within the tool were highly correlated and consistent in measuring the construct of Creativity.

Validity

To ensure the validity and reliability of the Creativity tool, the researcher implemented several validation procedures. These procedures involved expert validation and assessments of convergent validity and reliability.

Expert Validity

Expert validation was done for the scale by six experts from the field of psychology. Experts rated each item using a five-point rating scale:

1=Not Acceptable (major modifications needed)

2=Below Expectations (some modifications needed)

3=Meets Expectations (no modifications needed but could be improved with minor changes)

4=Exceeds Expectations (no modifications needed)

Mean of ratings for each item given by experts was calculated and the items with below average rating were eliminated.

Convergent Validity

Convergent validity, which assesses the extent to which different measures of the same construct are related, was evaluated for the Creativity tool. The Average Variance Extracted (AVE) value for Creativity was determined to be 0.579. According to the thumb rule, an AVE value above 0.5 indicates acceptable convergent validity. Furthermore, the positive square root of the AVE for Creativity (AVE = 0.761) was found to be higher than the highest correlation of Creativity (r = 0.51) with all other constructs, indicating adequate convergent validity.

Finalized Questionnaire

After undergoing the validation procedures and considering the feedback from the experts, the questionnaire was finalized. It consisted of ten items that effectively assessed the Creativity of Primary School Children aged 11 to 13. The finalized questionnaire was then sent to the experts for further review and confirmation of its suitability for data collection.

The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children)

In the existing literature, three tools are available for measuring Mindfulness among children. The first tool is the Child and Adolescent Mindfulness Measure (CAMM), which is a 10-item self-report measure designed for children and adolescents aged 10 to 17 (Greco et al., 2011). The respondents rate the frequency of each item on a 5-point scale, with higher scores indicating greater Mindfulness. However, after conducting a pilot study, the researcher found that some children had difficulty understanding certain items of the CAMM and therefore opted not to use it in the current research.

The second tool is the Mindful Attention Awareness Scale for Children (MAAS-C), a 15-item self-report measure developed for children aged 9 to 13 (Brown et al., 2013). The MAAS-C assesses trait Mindfulness, with respondents rating the truthfulness of each item on a 6-point scale. Despite its relevance, the researcher chose not to use the MAAS-C because the focus of the study was on acceptance and awareness elements within Mindfulness, which were not fully captured by this scale.

The third tool is the Mindfulness Inventory for Children and Adolescents (MICA), a 25-item self-report questionnaire that measures trait Mindfulness (Briere, 2011). The MICA includes five subscales related to self-acceptance, present-centred awareness, stability, metacognitive awareness, and acceptance of internal experience. Although the MICA was considered, the researcher decided not to use it due to the lack of validation and publication at the time of the study.

Considering the limitations of the existing tools, the researcher chose to develop a new tool based on The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Cardaciotto et al., 2008). Permission was obtained from the original author, and the scale was modified to create a version suitable for children (See

Appendix G"). Expert opinions were also sought to simplify the items. The resulting tool, named The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children), assesses awareness of the present moment and acceptance using a Likert scale with ten items. Participants are asked to carefully read each statement and indicate their response on a scale ranging from "Never" to "Always" i.e., "Never", "Rarely", "Sometimes", "Often", and "Always". The scoring of the tool ranges from 0 to 4.

Reliability

Reliability was evaluated by calculating the internal consistency reliability coefficient using Cronbach's alpha. The tool demonstrated a high internal consistency reliability coefficient of Cronbach $\alpha = .771$, indicating that the items within the tool were highly correlated and consistent in measuring Mindfulness among Primary School Children.

Validity

Expert validation was done for the scale by six experts from the field of psychology. Experts rated each item using a five-point rating scale:

1=Not Acceptable (major modifications needed)

2=Below Expectations (some modifications needed)

3=Meets Expectations (no modifications needed but could be improved with minor changes)

4=Exceeds Expectations (no modifications needed) in assessing Mindfulness among Primary School Children. Mean of ratings for each item given by experts was calculated and the items with below average rating were eliminated.

Finalized Questionnaire

After undergoing the validation procedures, the questionnaire, comprising 20 items, was finalized, and sent to the six experts for further review and confirmation of its suitability for data collection.

Children's PERMA Tool

In the year 2021, the researcher developed a tool to assess the Positive Emotions, Engagement, Relationships, Meaning, and Accomplishment of Primary School Children between the ages of 11 to 13. This tool measures the PERMA constructs using a questionnaire method. It consists of twenty-five items presented in a Likert scale format. Participants are required to carefully read each statement and indicate their response on a scale ranging from "Never" to "Always," which includes response options such as "Never," "Rarely," "Sometimes," "Often," and "Always." The scoring of the tool ranges from 0 to 4, with higher scores indicating higher levels of the respective constructs.

Initially, the researcher developed 50 items for the tool. However, based on the opinion of the supervisor and considering the face validity and content of the items, 25 items were eliminated, resulting in a total of twenty-five items for the final version of the tool.

To ensure the quality and validity of the tool, an expert committee was formed consisting of experts from six different universities in Karnataka. These experts had expertise in the field of Psychology, were proficient in English, and had prior experience working with children. Their valuable input and insights were taken into consideration during the development and refinement process of the tool.

Reliability

Reliability was assessed by calculating the internal consistency reliability coefficient, Cronbach's alpha, for each dimension and the total scale. The obtained reliability coefficients were .691 for Positive Emotions, .569 for Engagement, .721 for Relationships, .564 for Meaning, .812 for Achievement, and .867 for the total scale. These coefficients indicate satisfactory internal consistency and reliability of the tool.

Validity

Expert validation was done for the scale by six experts from the field of psychology. Experts rated each item using a five-point rating scale:

1=Not Acceptable (major modifications needed)

2=Below Expectations (some modifications needed)

3=Meets Expectations (no modifications needed but could be improved with minor changes)

4=Exceeds Expectations (no modifications needed) in assessing PERMA among Primary School Children. Mean of ratings for each item given by experts was calculated and the items with below average rating were eliminated.

Finalized Questionnaire

The finalized questionnaire, comprising the 25 items, was then sent to the six experts for final review and confirmation of its suitability for data collection. With the psychometric properties established, the tool was deemed suitable for assessing the PERMA constructs among Primary School Children in the present study.

As the tools were successfully developed and validated, it was utilized as one of the measurement instruments in the present study to assess the Positive Emotions, Engagement, Relationships, Meaning, and Accomplishment of Primary School Children aged 11 to 13.

Table 3.1

Tools used in the study

Sl. No.	Tool	Author	Year
1	The Children's Creativity tool	Developed by the researcher	2021
2	The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children)	Developed by the researcher	2021
3	Children's PERMA tool	Developed by the researcher	2021

Once the measurement tools were finalized, the data collection procedure was carried out to gather the necessary information from the participants.

In the following section, the detailed process of data collection, including participant recruitment, consent, and administration of the questionnaires, will be described.

Data Collection Procedure

Once the samples were identified from different schools across various states in India, the researcher took several steps to ensure informed participation and smooth data collection. Permission was obtained from the heads of the institutions and parents, as required, to conduct the study in the respective schools. Individual and group meetings were conducted, both offline and online, where the purpose and objectives of the study were explained to the participants. Workshops and talks were organized during these sessions to establish a rapport and create a comfortable environment for the participants.

Considering that the research involved children, written consent was obtained from both the institution heads and parents to prioritize ethical considerations and safeguard the well-being of the participants. This ensured that all parties involved were aware of and agreed to the child's participation in the study. Socio-demographic data of the participants were collected to gather valuable information about their background and characteristics.

Clear instructions were given to the students, who were provided with the Children's Creativity tool and the Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children). The researcher promptly and thoroughly addressed any doubts or questions raised by the participants, ensuring their understanding of the tools and the tasks involved.

After completing the data sheets for the first two tools, the children's responses were collected by the researcher. Following a brief interval of 15 to 20 minutes, the participants were given the third tool, The Children's PERMA tool. Careful checks were conducted to identify and rectify any omissions or errors in the completed questionnaires, ensuring data accuracy and integrity. Upon completion of the study, the participants were thanked for their valuable contributions to the research.

Ethical considerations were carefully addressed throughout the data collection process, including obtaining ethical committee approval, seeking permission from institution heads and parents, ensuring confidentiality, and providing participants with the option to withdraw from the study.

Ethical Consideration

Ethical committee approval was obtained from the research institution before proceeding with data collection, demonstrating the researcher's commitment to adhering to ethical guidelines. Permission was sought from the heads of the institutions and parents, ensuring that all necessary approvals were obtained prior to conducting the study. As the study involves children, written consent was obtained from the heads of institutions and parents to ensure their informed agreement for their child's participation.

Participant confidentiality was prioritized, and participants were assured that the information they provided would remain confidential. The researcher emphasized that participants' identities would be protected throughout the research process. Clear guidelines were established to handle data in a secure and confidential manner, preventing unauthorized access or disclosure.

Participants were also informed of their right to withdraw from the research at any point without facing any consequences or negative repercussions. This ensured that participants had the freedom to participate voluntarily and could make decisions about their involvement based on their comfort level.

By adhering to ethical principles, obtaining necessary permissions, ensuring confidentiality, and providing participants with the option to withdraw, the researcher demonstrated a commitment to conducting the study in an ethical and responsible manner.

Once the data collection process, conducted in accordance with ethical guidelines, was completed, the collected data was analysed using the methods outlined below.

Statistical Analysis

Descriptive statistics were employed to gain insights into the characteristics of the data. Furthermore, the reliability of the construct was assessed using Cronbach's alpha criteria. To identify the relationship between the constructs and test for correlation significance, a correlation analysis was conducted using the Pearson product-moment correlation coefficient.

Subsequently, a Structural Equation Model was developed using the AMOS software to examine the functionality of the theoretical model. Structural equation models establish connections between dependent latent variables and independent latent variables. This approach aids in identifying variables that not only exert direct effects but also have indirect effects on the study variable. The model parameters were estimated using the maximum likelihood method. The standard error of the estimates, along with the p-value of the significance test, was reported.

The performance of the constructed model was evaluated based on various model fit indices, providing insights into how well the model aligns with the observed data.

The data analysis phase involved organizing, summarizing, and interpreting the collected data using appropriate statistical techniques and methods. The goal was to uncover patterns, relationships, and Meaningful insights that would contribute to addressing the research objectives and answering the research questions.

CHAPTER 4

MAJOR FINDINGS AND CONCLUSION

The chapter provides an overview of the present research, including a summary of the study, major findings, implications of the findings, limitations of the study, and suggestions for future research.

The chapter summarizes the process of tool development, including the systematic planning, objective definition, content determination, and obtaining permission from school heads for data collection. It mentions the development of three tools: The Children's Creativity tool, The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Children Version), and the Children's PERMA tool. The tools were carefully designed and evaluated by experts to ensure their reliability and validity.

Model development is summarized, highlighting the steps taken to obtain samples from different schools and states in India. The researcher obtained permission from institution heads and parents, and participants were engaged through workshops and talks. The ethical considerations of the research, such as informed consent and confidentiality, were also addressed. Socio-demographic data were collected from the participants to provide a comprehensive understanding of the sample.

The chapter presents the major findings of the study, including the demographic details of the participants, reliability analysis results, validity analysis results, correlation analysis results, estimated path coefficients, covariance structure results, model goodness-of-fit assessment, and results of hypotheses testing. These findings provide insights into the relationships between the study variables and support the developed model.

The implications of the study are discussed, particularly in relation to policymaking and curriculum development. The findings suggest that modules based on the developed model can be used to enhance Creativity among Primary School Children, potentially leading

to amendments in educational policies. Incorporating these modules into the regular curriculum can improve learning outcomes and contribute to the holistic development of Indian youth.

The limitations of the study are acknowledged, such as the inclusion of students only from private schools, which may limit the generalizability of the findings. Suggestions for further research are provided, including exploring the variables influencing the relationships between Relationships, Mindfulness, and Creativity, developing intervention programs for specific age groups, establishing the psychometric properties of the tools among adults, and developing PERMA-based Mindfulness models for adolescents and adults.

Summary of the Research

The study focuses on enhancing Creativity among Primary School Children by assessing variables such as Positive Emotions, Engagement, Relationships, Meaning, Achievement, Mindfulness, and Creativity. The research aims to develop a PERMA-based model that enhances Mindfulness, leading to increased Creativity. Quantitative data was collected using questionnaires, and three tools were developed: The Children's Creativity tool, The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Children Version), and the Children's PERMA tool.

To develop the tools, the researcher carefully planned and defined the objectives and content. Permission was obtained from school heads, and the length, time, and number of questions were determined. Subject knowledge was acquired before item development. The final items were evaluated by experts.

For model development, samples were obtained from various schools in different states of India. Permission was obtained from institution heads and parents, and participants

were engaged through workshops and talks. Written consent was obtained, and socio-demographic data were collected. The Children's Creativity tool and The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children) were administered to the students, followed by The Children's PERMA tool. Questionnaires were collected, checked for omissions, and participants were thanked and given incentives. The questionnaire was administered to 1809 participants.

Ethical considerations were addressed, including approval from the Doctoral Committee of Mangalore University and the institution. Informed consent and confidentiality were ensured. Descriptive statistics were computed, and reliability and validity were assessed using Cronbach's alpha and Average Variance extracted criteria, respectively. Correlation analysis was conducted using the Pearson product-moment correlation coefficient. Finally, structural equation modelling using AMOS software validated the theoretical model.

In conclusion, the research aims to enhance Creativity among Primary School Children by developing a PERMA-based model. The tools were carefully developed, and data collection was conducted ethically. The statistical analyses and structural equation modelling support the validity of the model.

Major findings of the study

Some of the important findings of the study are:

Demographic details of the participants of the study

The sample consisted of 55% male and 45% female Primary School Children. Among the participants, 29% were 11 years old, 40% were 12 years old, and 31% were 13 years old. Within the sample, 11.7% of males and 17.19% of females were 11 years old, 16.86% of

males and 23.12% of females were 12 years old, and 15.47% of males and 15.64% of females were 13 years old.

Results of model goodness of fit Assessment

The overall structural equation model demonstrates a good fit with the data.

Reliability analysis

The reliability analysis revealed that Creativity and Mindfulness demonstrated high levels of reliability ($\alpha = .804$ and $\alpha = .771$, respectively). Positive Emotions, Engagement, Relationships, Meaning, and Achievement exhibited moderate to high levels of reliability ($\alpha = .691$, $\alpha = .569$, $\alpha = .721$, $\alpha = .564$, $\alpha = .812$, respectively).

Validity analysis

The validity of the item scale was established as the items were found to be statistically significant in measuring their respective latent variables, including Positive Emotion, Engagement, Relationship, Achievements, Creativity, Mindfulness, and Meaning.

Correlation analysis

Mindfulness exhibits a strong positive correlation with Engagement and Meaning, indicating that as levels of Engagement and Meaning increase, the rate of Mindfulness also increases. Similarly, Creativity shows a high positive correlation with Achievement and Positive Emotions, suggesting that as Creativity skills improve, there is an increase in Achievement rates and Positive Emotions.

Results of Covariance structure

Statistically significant covariance exists between positive emotion, Engagement, relationship, Achievements, and Meaning. Furthermore, all latent variables exhibit a positive relationship with each other. Mindfulness demonstrates both direct and indirect effects on Creativity, acting as a mediating variable.

Results of estimated direct path coefficients

The estimated direct path coefficients revealed that Positive Emotions, Engagement, Meaning, and Achievement have a direct positive effect on Mindfulness, while Positive Relationship has a direct negative effect on Mindfulness. Moreover, Mindfulness has a direct positive effect on Creativity. Positive Emotions, Engagement, and Achievement also have direct positive effects on Creativity, whereas Positive Relationship has a direct negative effect on Creativity. However, Meaning does not show a significant direct effect on Creativity.

Result of hypotheses testing

H_1: PERMA variables effects Mindfulness, which in turn effects Creativity among Primary School Children is partially accepted.

H_{1a}: There is a significant relationship between Positive Emotions and Mindfulness, which in turn affects Creativity among Primary School Children is accepted.

H_{1b}: There is a significant relationship between Engagement and Mindfulness, which in turn affects Creativity among Primary School Children is accepted.

H_{1c}: There is a significant relationship between Positive Relationships and Mindfulness, which in turn affects Creativity among Primary School Children is accepted.

H_{1d}: There is a significant relationship between Meaning and Mindfulness, which in turn affects Creativity among Primary School Children has failed to accept.

H_{1e}: There is a significant relationship between Achievement and Mindfulness, which in turn affects Creativity among Primary School Children is accepted.

Conclusion

In conclusion, the current study delved into the captivating force of Creativity and its interplay with Mindfulness, Engagement, Positive Relationships, Meaning, and Achievement among Primary School Children. The results shed light on the significant mediating role of Mindfulness in the relationships between Positive Emotions, Engagement, Positive Relationships, and Achievement with Creativity.

The study revealed a significant positive correlation between Positive Emotions, Mindfulness and Creativity, indicating that higher levels of Positive Emotions are associated with increased Creativity and this relationship is mediated by Mindfulness among Primary School Children. This finding supports the idea that fostering positive emotional environments and Mindfulness can promote creative thinking and problem-solving abilities in children.

The study identified a positive association between Engagement, Mindfulness, and Creativity, indicating that children who experience Flow and deep Engagement in activities are more likely to transition into a mindful state, which, in turn, enhances their creative thinking abilities.

Surprisingly, a negative relationship was found between Positive Relationships and Mindfulness and Creativity, implying that when children experience positive relationships, it

becomes challenging for them to enter a mindful state, which negatively affects their creative thinking abilities. This counterintuitive finding warrants further exploration and investigation to better understand the complex dynamics between positive relationships, Mindfulness, and Creativity in children.

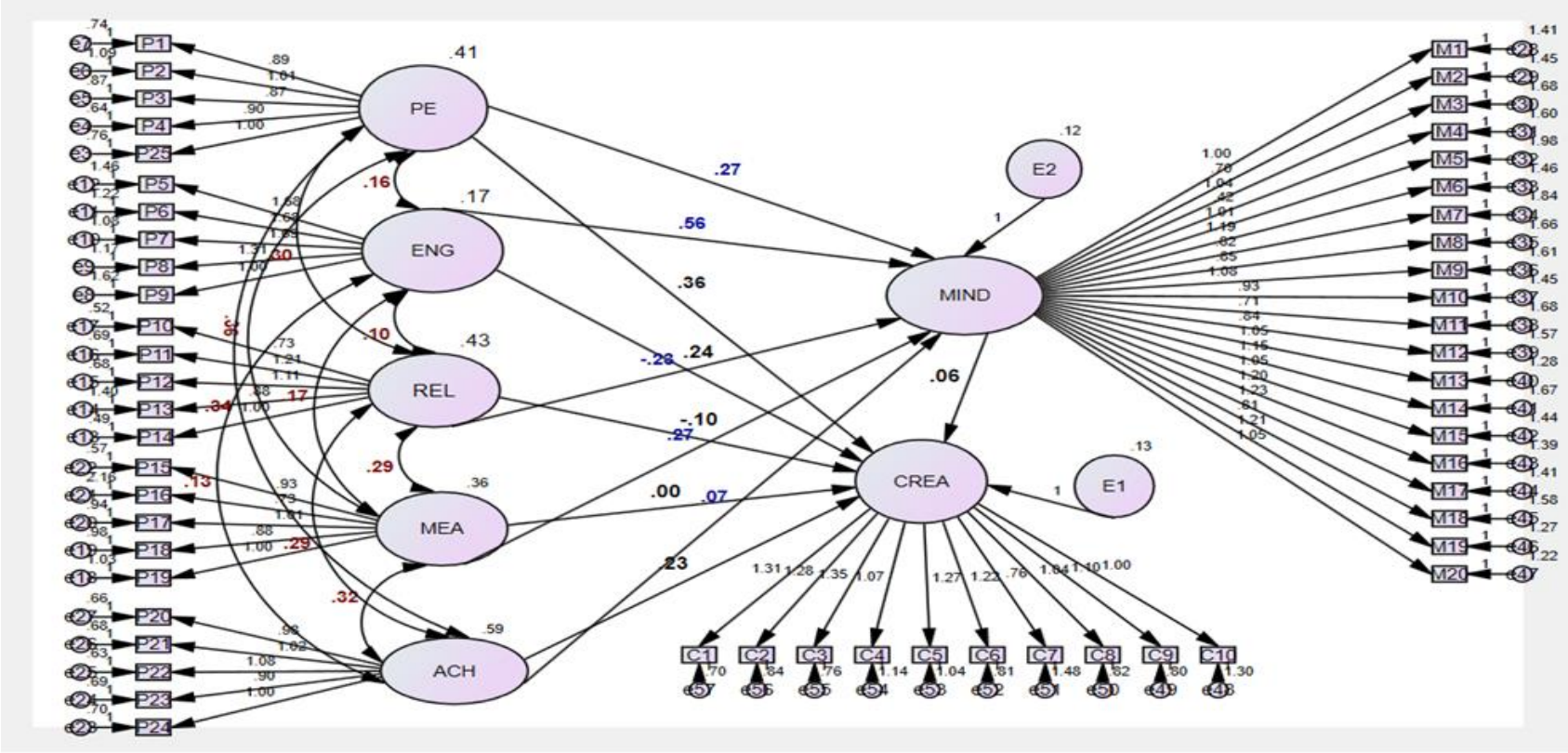
Further in this study, no significant effect was found between Meaning and Creativity and Mindfulness didn't play a mediating role among Primary School Children, indicating the need for further investigation and exploration into the intricate relationship between Meaning, Mindfulness, and Creativity in Primary School Children.

The study also confirmed a positive association between Creativity, Mindfulness and Achievement, suggesting that children who have sense of Achievement are more likely to demonstrate higher levels of Creativity via Mindfulness. However, it is worth noting that the relationship between Creativity and Achievement is multifaceted, and there may be other factors influencing this association.

Overall, the findings of the current study contribute valuable insights into the intricate relationships between Creativity, Mindfulness, Positive Emotions, Engagement, positive relationships, Meaning, and Achievement among Primary School Children. The results highlight the potential benefits of incorporating practices that promote Positive Emotions, Engagement, Mindfulness, and a sense of Achievement in educational settings to enhance children's Creativity and overall well-being.

Figure 4.1

Estimated Structural Equation Model



Implications of the study

The implications of this study are significant for policymaking in the country, particularly in the field of education. The findings suggest that modules based on the developed model can be designed to enhance Creativity among Primary School Children. By incorporating these modules into the curriculum, the government of India can make amendments in the education policy that prioritize and promote Creativity. The implementation can be made in the following sections of the Education Policy (2020),

1. Early Childhood Care and Education: The Foundation of Learning (National Education Policy (2020), Ministry of Human Resource Development, Government of India)

"A National Curricular and Pedagogical Framework for Early Childhood Care and Education (NCPFECCE) for children up to the age of 8 will be developed by NCERT in two parts, namely, a sub-framework for 0–3-year-olds, and a sub-framework for 3-8 year-olds. In particular, the numerous rich local traditions of India developed over millennia in ECCE involving art, stories, poetry, games, songs, and more, will also be suitably incorporated. The framework will serve as a guide both for parents and for early childhood care and education institutions" (National Education Policy (2020), Ministry of Human Resource Development, Government of India). The current developed model offers a systematic approach to enhance Creativity, which is crucial for a child's development, well-being, and adaptability. In addition to utilizing art, stories, poetry, games, and songs, this model provides valuable tools to foster and nurture creativity in children.

2. Curtailing Dropout Rates and Ensuring Universal Access to Education at All Levels

"The first is to provide effective and sufficient infrastructure so that all students have access to safe and engaging school education at all levels from pre-primary school to Grade 12. Besides providing regular trained teachers at each stage, special care shall be taken to ensure that no school remains deficient on infrastructure support. In addition to building the infrastructure, it is vital to integrate teaching techniques that foster Creativity. The current developed model can be effectively utilized for this purpose. By incorporating this model into educational practices, it can promote and encourage creative thinking among students" (National Education Policy (2020), Ministry of Human Resource Development, Government of India).

3. Curriculum and Pedagogy in Schools: Learning Should be Holistic, Integrated, Enjoyable, and Engaging Play/activity-based learning and the curriculum.

"Curriculum content will be reduced in each subject to its core essentials, to make space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning. The mandated content will focus on key concepts, ideas, applications, and problem-solving. Teaching and learning will be conducted in a more interactive manner; questions will be encouraged, and classroom sessions will regularly contain more fun, creative, collaborative, and exploratory activities for students for deeper and more experiential learning" (National Education Policy (2020), Ministry of Human Resource Development, Government of India). The current model can be incorporated to make learning enjoyable.

By integrating Creativity-focused modules into the regular curriculum, the aim is to move beyond traditional approaches that primarily focus on information exchange. Instead, the focus will be on creating an environment that fosters Creativity and nurtures the holistic

development of Indian youth. These modules can provide students with opportunities to engage in activities that enhance their creative thinking skills, Positive Emotions, Engagement, Relationships, and Meaning.

By implementing this model, the education system can better prepare students for the challenges and opportunities of the future. It can help cultivate a generation of individuals who are not only knowledgeable but also equipped with the creative problem-solving skills needed to thrive in various aspects of life. Additionally, by emphasizing Creativity in education, India can foster innovation and contribute to the growth and development of the country.

Delimitations of the study

One delimitation of the present study is that it only included students from private schools, which may restrict the generalizability of the findings. It is important to consider including children from government schools in future research to obtain a more comprehensive understanding of the relationship between the variables under investigation.

By limiting the study to private schools, the sample may not accurately represent the broader population of Primary School Children in the country. Government schools often cater to a diverse range of students, including those from economically disadvantaged backgrounds, different socio-cultural contexts, and varying educational resources. Therefore, the inclusion of children from government schools would provide a more representative sample and increase the external validity of the findings.

Including children from government schools would offer insights into how factors such as socio-economic status, varying teaching methodologies, and different educational environments may influence the variables being studied. It would also allow for a more

nuanced understanding of the impact of Creativity, Mindfulness, and other variables on Primary School Children across different educational settings.

Moreover, the inclusion of government school students would contribute to addressing educational equity issues and provide valuable information for policymakers and educators working in diverse educational contexts. It could help identify specific challenges and develop targeted interventions to enhance Creativity and Mindfulness in Primary School Children from all backgrounds.

Therefore, future research should strive to include a broader representation of Primary School Children, encompassing students from both private and government schools. By doing so, the findings can be more reliably generalized to the larger population, leading to a better understanding of the relationship between variables and informing educational policies and practices that benefit all Primary School Children.

Secondly, a qualitative study could have been conducted to explore the relationship between variables among Primary School Children. Qualitative research methods would provide valuable insights and a deeper understanding of how these variables interact and influence each other in the context of young learners.

Scope for further research

There are several areas for further research that stem from the current study. Firstly, to establish causal effects, experimental designs such as carefully designed longitudinal studies to examine causal relationships between variables can do done. Through this, researchers can gather data to analyze and determine the cause-and-effect relationships between the variables under investigation.

Secondly, there is a need to develop and implement an intervention program specifically designed to enhance Creativity in children between the ages of 11 and 13. This age group represents a critical developmental stage where Creativity can be fostered and nurtured. By creating an intervention program that incorporates elements such as Mindfulness, Positive Relationships, and other relevant factors identified in the research, educators and policymakers can provide targeted support to enhance the creative abilities of children during this crucial period of their lives.

Additionally, it is important to establish the psychometric properties of the Creativity, PERMA, and Mindfulness tools among adults. While the current study focused on Primary School Children, expanding the research to include adults would provide valuable insights into the validity and reliability of these measurement tools in a different demographic. Understanding how these tools perform with adults would enable their effective use in assessing Creativity, PERMA, and Mindfulness in various contexts, such as workplace settings or community programs.

Lastly, building upon the present study's focus on Primary School Children, future research should aim to develop a PERMA-based Mindfulness model specifically designed to enhance Creativity in adolescents and adults. This expansion would allow for a more comprehensive understanding of how Mindfulness and other variables influence Creativity across different age groups. By developing a tailored model for adolescents and adults, educators, psychologists, and policymakers can effectively implement interventions and strategies that foster Creativity and promote well-being throughout various stages of life.

These avenues for further research will contribute to the existing body of knowledge on Creativity, Mindfulness, and their interplay with other variables. The outcomes of these

studies will inform the development of evidence-based interventions, educational programs, and policies that aim to enhance Creativity and foster holistic development in individuals across different age groups and settings.

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APPENDIX

Appendix A

Consent Form

This research on Creativity and other positive psychology variables is being carried out by Ms. Shefali S K under the guidance of Dr V Premanand, St Agnes College, Mangalore. This research is purely for academic purpose. Participating in this research is voluntary and will not benefit you in any way but is likely to help others like you. Your identity and response will not be revealed to anybody, and it will be kept confidential. Please give honest responses.

Signature of the Researcher
Shefali SK.
Research Scholar in Psychology
St. Agnes College
Mangalore

Terms and conditions of research have been explained to the participants.

I consider the students/ wards participating in the research.

As the children are minors, consent for participation in the research is taken from Principal/ Teacher/ Parents.

Signature of Research participant's
Principal/Teacher/ Parents.

Date:

Place:

Appendix B

Demographic details

Name:

Age: **11 years** ☐

12 years ☐

13 years ☐

Gender: **Male** ☐

Female ☐

Other: ☐

Prefer not to say: ☐

School name:

Appendix C

The Children's Creativity tool

Instructions: Below are given a list of statements about yourself. You are requested to read each statement carefully. The options range from "Never" to "Always", i.e., "Never", "Rarely", "Sometimes", "Often", and "Always". Choose the option which is appropriate for you. You are requested to give your responses sincerely. Please do not omit any question.

Sl. No	Items	Never	Rarely	Sometimes	Often	Always
1	I use original ideas a lot, which is useful in my day-to-day life situation					
2	I am a creative person					
3	I love creating new things which are useful to me and others					
4	Finding helpful solutions to others' issues excites me					
5	I do creative things that are quite different from how others do them					
6	Generally, my ideas are new and useful					

7	I find unusual ways to solve my issues					
8	My ideas are helpful to others					
9	I have my way of learning things					
10	Solving my issues uniquely gives me pleasure					

Appendix D

The Assessment of Present-Moment Awareness and Acceptance: The Philadelphia Mindfulness Scale (Adapted Version for Indian Children)

Instructions: Below are given a list of statements about yourself. You are requested to read each statement carefully. The options range from "Never" to "Always", i.e., "Never", "Rarely", "Sometimes", "Often", and "Always". Choose the option which is appropriate for you. You are requested to give your responses sincerely. Please do not omit any question.

Sl. No	Items	Never	Rarely	Sometimes	Often	Always
1	I am aware of what I am thinking					
2	I try to distract myself when I feel unpleasant emotions					
3	While talking to other people, I am aware of their bodily expressions					
4	There are particular aspects about myself, which I don't want to think about					
5	When I take bath, I feel the water which is running over my body					
6	To avoid bad thoughts, I keep myself busy					
7	When I am scared, I notice what is going on inside my body					

8	I wish I could control my emotions more easily					
9	When I go for a walk, I notice all the smells around me					
10	I tell myself that I shouldn't have certain thoughts					
11	When someone asks, "How I am feeling?" I can quickly tell them					
12	There are things I try not to think					
13	I am aware of the thoughts which I am having when my mood changes					
14	I tell myself that I shouldn't feel sad					
15	I notice changes inside my body, like my heart beating faster					
16	If there is something, I don't want to think about, I make an effort not to think about it					
17	I know when my emotions change					
18	I try to put my problems out of mind					
19	When I am talking to people, I know about the emotions, I am experiencing					

20	I try to push away the bad memories when they come to my mind					

Appendix E

Children's PERMA tool

Instructions: Below are given a list of statements about yourself. You are requested to read each statement carefully. The options range from "Never" to "Always", i.e., "Never", "Rarely", "Sometimes", "Often", and "Always". Choose the option which is appropriate for you. You are requested to give your responses sincerely. Please do not omit any question.

Sl. No	Items	Never	Rarely	Sometimes	Often	Always
1	In general, I am grateful about things around me					
2	I care for others					
3	When I grow up, I feel that I will become a great person					
4	In general, I am satisfied with life					
5	In general, I am happy					
6	I don't get distracted while doing something I like					
7	It has happened that, while doing something, I was so involved that I didn't feel hungry or thirsty					
8	It has happened that, while doing something, I was so					

	involved, and I didn't realize time					
9	I can completely focus on the task at hand					
10	While, I am doing some work, I don't realise when someone calls me					
11	I feel that my parents love me					
12	I feel that my friends love me					
13	My friends help me when I need help					
14	I can make friends easily					
15	I feel good to be with my friends					
16	I complete my classwork on time					
17	I generally achieve, the goals which I set for myself every day					
18	I complete my day-to-day activities on time					
19	I handle my responsibilities					

20	I usually spend my time, working towards my goals					
21	I enjoy the beauty of nature					
22	I think we can learn from bad experiences					
23	It feels good about the relationships I have with people I know					
24	I like planting trees/ plants in the garden					
25	Even if bad things happen in life, I think that good times will come to me					